

VORTRAG

"Beam-ACO: A hybrid between ant colony optimization and beam search"

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Abstract:

In recent years appeared some examples of construction-based metaheuristics that make use of branch & bound concepts during the solution construction. In the first part of this talk, we attempt to give an explanation of why this type of hybridization works. First, we introduce the concepts of primal and dual problem knowledge, and we show that standard construction-based metaheuristics only exploit the primal problem knowledge. In contrast, hybrid techniques making use of branch & bound concepts exploit both the primal and the dual problem knowledge. A well-working example is Beam-ACO, which is an algorithm obtained by hybridizing ant colony optimization with beam search. In the second part of the talk, we will give a few application examples of Beam-ACO, including the application to simple assembly line balancing and the longest common subsequence problem.